

Claims

1. 1. A surgical instrument for implanting an anastomotic ring device,
comprising:
 - an actuating member configured to receive an anastomotic ring and moveable
between a cylindrical, unactuated position and a hollow rivet forming shape in response
5 to a compressive actuating force;
 - a handle including an actuation mechanism for producing the compressive
actuating force; and
 - an elongate cannula connecting the handle to the actuating member and operably
configured to transfer the compressive actuating force from the handle to the actuating
10 member.
2. The surgical instrument of claim 1, wherein the handle is further operably
configured to produce the compressive actuating force by producing a proximally
directed longitudinal motion and a distally directed longitudinal motion, the elongate
cannula operably configured to separately transfer the proximally and distally directed
5 longitudinal motions respectively to distal and proximal portions of the actuating
member.
3. The surgical instrument of claim 2, wherein the elongate cannula comprises a first
tube connected to the proximal portion of the actuating member and a second tube
slidingly received in the tube and connected to the distal portion of the actuating member.
4. The surgical instrument of claim 3, wherein the elongate cannula further
comprises a third tube interposed between the first and second tubes and distally engaged
to a central portion of the actuating member.
5. The surgical instrument of claim 1, further comprising a piercing tip distally
coupled to the actuating member.
6. The surgical instrument of claim 5, wherein the piercing tip comprises an
enterotomy creation tip.

7. The surgical instrument of claim 6, wherein the piercing tip comprises a veress needle.
8. The surgical instrument of claim 1, further comprising an illumination source connected proximate to the distal portion of the actuating member.
9. The surgical instrument of claim 8, wherein the actuating member comprises a light transmissive material.
10. The surgical instrument of claim 8, wherein the actuating member comprises an electroluminescent material.
11. The surgical instrument of claim 1, further comprising a pneumatic conduit communicating between the distal tip and the handle for inflating a body lumen.

12. A surgical instrument, comprising:
- a means for inserting an anastomotic ring device to tissue walls of two lumens;
 - an actuating means for transforming the anastomotic ring device from a generally circular shape to a hollow rivet shape.

13. A surgical instrument, comprising:
a cannula;
an actuating member distally and laterally presented on the cannula for receiving a
5 generally cylindrical anastomosis ring; and
a first control operative to compress a longitudinal end of the actuating member toward a
center of the actuating member to actuate a respective portion of the received anastomosis
ring.
14. The surgical instrument of claim 13, further comprising:
a second control operative to compress another longitudinal end of the actuating member
toward the center of the actuating member to actuate the other respective portion of the
received anastomosis ring.
15. The surgical instrument of claim 13, further comprising a stationary member
mechanically grounding the center of the actuating member relative to the first cannula.
16. The surgical instrument of claim 13, further comprising an enterotomy creation tip
distally coupled to the cannula.
17. The surgical instrument of claim 14, wherein the enterotomy creation tip
comprises a veress needle.
18. The surgical instrument of claim 13, further comprising an insufflation conduit
distally communicating through the cannula.
19. The surgical instrument of claim 13, further comprising a veress needle which is
in pneumatic communication with the insufflation conduit.
20. The surgical instrument of claim 13, further comprising an illuminator connected
to the cannula.